

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the author will summarize the result of Vector Autoregressive Method (VAR) that have been explained in chapter IV. The output and finding that related to the hypothesis will be discussed together. This chapter also provides managerial implications, limitations for the research and the recommendations for further research about disposition effect.

5.2 Vector Autoregressive Method (VAR) Conclusion

5.2.1 Stationary Test

Stationary test that used in this research is Augmented Dickey-Fuller (ADF) method at the same degree (level, first difference or second difference). The data said to be stationer if the ADF statistic value less than the MacKinnon Critical Value. From the result reported in chapter IV, can be seen that all of the ADF statistic value $<$ MacKinnon Critical Value, means that the data stationer in degree level.

5.2.2 Optimal Lag Test

The determination of optimal lag is important because if the number of lag that used in test is too small, the error will not accurately estimate. The criterion for determine optimal lag that used in this research is Schwarz Information Criterion (SIC). From the result of the test, can be seen that for AALI, ADRO, AKRA, ASII, BBKA, BBNI, BBRI, BMRI, BSDE, GGRM, ICBP, INDF, INTP, KLBF, LPKR,

LSIP, MNCN, PGAS, PTBA, SMGR, TLKM, UNTR, and UNVR the optimum lag that used in the test is lag 1 and for JSMR the optimum lag that used in the test is lag 2.

5.2.3 Stability Test

The purpose of stability test is to check whether the VAR equation already stable by using the optimal lag that already determine. According to Gujarati (2003), the VAR equation already stable if the value of the modulus is less than one. From the result of the test, the value of the modulus never greater than one. It means that the VAR equation already stable by using the optimal lag that already determine.

5.2.4 Granger Causality Test

Here is the summary of the result of Granger Causality Test:

- a. There is no two-way relationship between variables in AALI stock.
- b. There is unidirectional relationship between TVA and return in ADRO stock, while the other variables do not have any relationship.
- c. There is unidirectional relationship between volatility and return in AKRA stock, while the other variables do not have any relationship.
- d. There is no two-way relationship in ASII stock.
- e. There is unidirectional relationship between TVA and volatility in BBKA stock.

- f. There are three unidirectional relationship in BBNI stock. The first is between TVA and return, the second between return and volatility and the third between TVA and volatility.
- g. There is unidirectional relationship between return and TVA in BBRI stock, while the other variables do not have any relationship.
- h. There are two unidirectional relationship in BMRI stock. The first one between return and TVA and the second between TVA and volatility.
- i. There is unidirectional relationship between return and volatility in BSDE stock.
- j. There is no two-way relationship in GGRM stock.
- k. There is unidirectional relationship between return and volatility in ICBP stock. The other variables do not have two-way or unidirectional relationship.
- l. There is no two-way relationship between variable in INDF stock.
- m. There is unidirectional relationship between return and volatility in INTP stock.
- n. There is no two-way relationship between the variable in JSMR stock.
- o. There is no two-way relationship between the variable in KLBF stock.
- p. There are two unidirectional relationship in LPKR stock. The first is between return and TVA and the second between volatility and return.
- q. There unidirectional relationship between return and volatility in LSIP stock.
- r. There is two-way relationship between volatility and return in MNCN stock.

- s. There is unidirectional relationship between TVA and volatility in PGAS stock.
- t. There is unidirectional relationship between return and TVA in PTBA stock.
- u. There are two unidirectional relationship in SMGR stock. The first is between return and TVA and the second between return and volatility.
- v. There is no two-way relationship between variables in TLKM stock.
- w. There is unidirectional relationship between TVA and return in UNTR stock.
- x. There is unidirectional relationship between TVA and volatility in UNVR stock.

5.2.5 Cointegration Test

The purpose of cointegration test is to know the long-term relationship between the variables. In this test, the method that will be used is Johansen Cointegration Test. If the trace statistic greater than the critical value, it means that the equation is cointegrated. From the result of cointegration test, can be seen that all of the trace statistic are greater than the critical value. Means that trading volume activity (TVA), return and volatility have stability relationship and the similarity movement in the long-run.

5.2.6 Impulse Response Function

The Impulse Response Function (IRF) result shows the relationship between trading volume activity (TVA), return and volatility. This relationship can indicate the existence of disposition effect. If the relationship consistent with the theory, means disposition effect does not exist. If the result inconsistent with theory,

means that disposition effect does exist. Here is the summary of impulse response function test:

1. Astra Agro Lestari Tbk (AALI)

- a. There is no disposition effect on AALI Stock
- b. Return has negative relationship to volatility when disposition effect occur on AALI Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on AALI Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on AALI Stock

2. Adaro Energy Tbk

- a. There is no disposition effect on ADRO Stock
- b. Return has positive relationship to volatility when disposition effect occur on ADRO Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on ADRO Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on ADRO Stock

3. AKR Corporindo Tbk

- a. There is disposition effect on AKRA Stock
- b. Return has negative relationship to volatility when disposition effect occur on AKRA Stock

- c. Trading volume activity has negative relationship to volatility when disposition effect occur on AKRA Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on AKRA Stock

4. Astra International Tbk

- a. There is no disposition effect on ASII Stock
- b. Return has positive relationship to volatility when disposition effect occur on ASII Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on ASII Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on ASII Stock

5. Bank Central Asia Tbk

- a. There is disposition effect on BBKA Stock
- b. Return has negative relationship to volatility when disposition effect occur on BBKA Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on BBKA Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on BBKA Stock

6. Bank Negara Indonesia (Persero) Tbk

- a. There is disposition effect on BBNI Stock

- b. Return has negative relationship to volatility when disposition effect occur on BBNI Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on BBNI Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on BBNI Stock

7. Bank Rakyat Indonesia (Persero) Tbk

- a. There is disposition effect on BBRI Stock
- b. Return has negative relationship to volatility when disposition effect occur on BBRI Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on BBRI Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on BBRI Stock

8. Bank Mandiri (Persero) Tbk

- a. There is disposition effect on BMRI Stock
- b. Return has negative relationship to volatility when disposition effect occur on BMRI Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on BMRI Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on BMRI Stock

9. Bumi Serpong Damai Tbk

- a. There is disposition effect on BSDE Stock
- b. Return has negative relationship to volatility when disposition effect occur on BSDE Stock
- c. Trading volume activity has negative relationship to volatility when disposition effect occur on BSDE Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on BSDE Stock

10. Gudang Garam Tbk

- a. There is no disposition effect on GGRM Stock
- b. Return has positive relationship to volatility when disposition effect occur on GGRM Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on GGRM Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on GGRM Stock

11. Indofood CBP Sukses Makmur Tbk

- a. There is no disposition effect on ICBP Stock
- b. Return has positive relationship to volatility when disposition effect occur on ICBP Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on ICBP Stock

- d. Trading volume activity has positive relationship to return when disposition effect occur on ICBP Stock

12. Indofood Sukses Makmur Tbk

- a. There is no disposition effect on INDF Stock
- b. Return has positive relationship to volatility when disposition effect occur on INDF Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on INDF Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on INDF Stock

13. Indocement Tunggal Prakasa Tbk

- a. There is no disposition effect on INTP Stock
- b. Return has positive relationship to volatility when disposition effect occur on INTP Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on INTP Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on INTP Stock

14. Jasa Marga (Persero) Tbk

- a. There is no disposition effect on INTP Stock
- b. Return has negative relationship to volatility when disposition effect occur on INTP Stock

- c. Trading volume activity has positive relationship to volatility when disposition effect occur on INTP Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on INTP Stock

15. Kalbe Farma Tbk

- a. There is no disposition effect on KLBF Stock
- b. Return has negative relationship to volatility when disposition effect occur on KLBF Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on KLBF Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on KLBF Stock

16. Lippo Karawaci Tbk

- a. There is disposition effect on LPKR Stock
- b. Return has negative relationship to volatility when disposition effect occur on LPKR Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on LPKR Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on LPKR Stock

17. PP London Sumatra Indonesia Tbk

- a. There is no disposition effect on LSIP Stock
- b. Return has negative relationship to volatility when disposition effect occur on LSIP Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on LSIP Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on LSIP Stock

18. Media Nusantara Citra Tbk

- a. There is no disposition effect on MNCN Stock
- b. Return has positive relationship to volatility when disposition effect occur on MNCN Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on MNCN Stock
- d. Trading volume activity has negative relationship to return when disposition effect occur on MNCN Stock

19. Perusahaan Gas Negara (Persero) Tbk

- a. There is disposition effect on PGAS Stock
- b. Return has negative relationship to volatility when disposition effect occur on PGAS Stock
- c. Trading volume activity has negative relationship to volatility when disposition effect occur on PGAS Stock

- d. Trading volume activity has negative relationship to return when disposition effect occur on PGAS Stock

20. Tambang Batubara Bukit Asam (Persero) Tbk

- a. There is no disposition effect on PTBA Stock
- b. Return has positive relationship to volatility when disposition effect occur on PTBA Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on PTBA Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on PTBA Stock

21. Semen Gresik (Persero) Tbk

- a. There is no disposition effect on SMGR Stock
- b. Return has negative relationship to volatility when disposition effect occur on SMGR Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on SMGR Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on SMGR Stock

22. Telekomunikasi Indonesia (Persero) Tbk

- a. There is no disposition effect on TLKM Stock
- b. Return has positive relationship to volatility when disposition effect occur on TLKM Stock

- c. Trading volume activity has positive relationship to volatility when disposition effect occur on TLKM Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on TLKM Stock

23. United Tractors Tbk

- a. There is no disposition effect on UNTR Stock
- b. Return has negative relationship to volatility when disposition effect occur on UNTR Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on UNTR Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on UNTR Stock

24. Unilever Indonesia Tbk

- a. There is no disposition effect on UNVR Stock
- b. Return has negative relationship to volatility when disposition effect occur on UNVR Stock
- c. Trading volume activity has positive relationship to volatility when disposition effect occur on UNVR Stock
- d. Trading volume activity has positive relationship to return when disposition effect occur on UNVR Stock

From the result, can be seen that disposition effect only exist on some stock that listed in LQ-45 period 2013 – 2017. From twenty-four stocks which taken as sample in this research, only eight stocks which indicate the occurrence of

disposition effect. So that can be conclude that disposition effect does not exist on blue-chip stocks in Indonesia Stock Exchange, because from twenty-four stocks, only eight stocks that experience disposition effect. This can be happen because mostly the price of blue-chip stock is stable and rarely suffered a huge losses. Besides, this research also found that disposition effect weaken the positive relationship between trading volume activity, volatility and return.

5.2.7 Variance Decomposition

The result of variance decomposition that have been discussed in chapter IV shows that the return most influenced by the return itself. Besides, trading volume activity and volatility also influence return in small proportion. The result of variance decomposition also shows that TVA influenced by TVA itself, return and volatility, but return and volatility only influence in small proportion. The last result of variance decomposition also shows that variable volatility most influenced by the volatility itself from first period until tenth period and also influenced by TVA and return.

Means that trading volume activity (TVA), return and volatility able to explain each other. An investor can predict the stock price by looking at the past trading volume activity, the higher the trading volume activity means that the demand of the stock also higher and can stimulate the price to increase. The rise in stock price results in an increase in return and volatility or the risk of the stock.

5.3 Managerial Implication

From the result can be seen that disposition effect exists in some blue-chip stocks. Disposition effect exist on AKRA, BBCA, BBNI, BBRI, BMRI, BSDE, LPKR, and PGAS. Disposition effect means that investor sell the winner stock too early and hold the loser stock too long. Means that when the stock price, investors sell the stock too early, but if the stock price decrease, investors will hold it for a long time and expect the stock price will increase. When investor sell the stock too early, there will always be a possibility that the stock price will increase higher than before and when investor hold the loser stock too long, there will always be a possibility that the stock price will decrease lower than before. Some investor behave like that because the investor does not know about the fundamental value about the company and economic condition of a country. So they cannot predict the stock price, whether it will decrease or increase. Besides, investor that hold blue-chip stocks mentally will be more hurt when experience losses rather than gains, compare with the investor who hold value stocks.

Based on the data analysis findings, some managerial implications can be suggested. The result show that disposition effect weaken the positive relationship between trading volume activity, return and volatility. It means that disposition effect make the market inefficient, when the market inefficient, investor cannot predict the future stock price by looking at the return and/or trading volume activity. The investor also cannot predict the volatility or the risk of the investment by looking at the return. From the result, the researcher suggest that investor who want to invest in stock should be knowledgeable about the market condition, economic

condition and company condition, so the decisions made do not cause the market to be inefficient.

5.4 Research Limitations

There are some limitations of this study, such as:

1. This study only focus on analyzing the existence of the disposition effect on blue-chip stocks in Indonesia Stock Exchange
2. This study only looking at the relationship between trading volume, return and volatility
3. This research does not analysis the disposition effect based on the type of the investor.

5.5 Suggestion for Further Research

As mention before that this result only focus on analyzing the existence of disposition effect on blue-chip stock by looking at the relationship between trading volume activity, return and volatility. From the result, can be seen that disposition effect only exist on some blue-chip stocks. For further research, would be great if the researcher analyze the disposition effect by looking from the type of the investor also because the twenty-four stock that include in this analysis is stock that classified as blue-chip stock, means that the performance or fundamental do not have much difference, there is a possibility that different type of investor which causes disposition effect.

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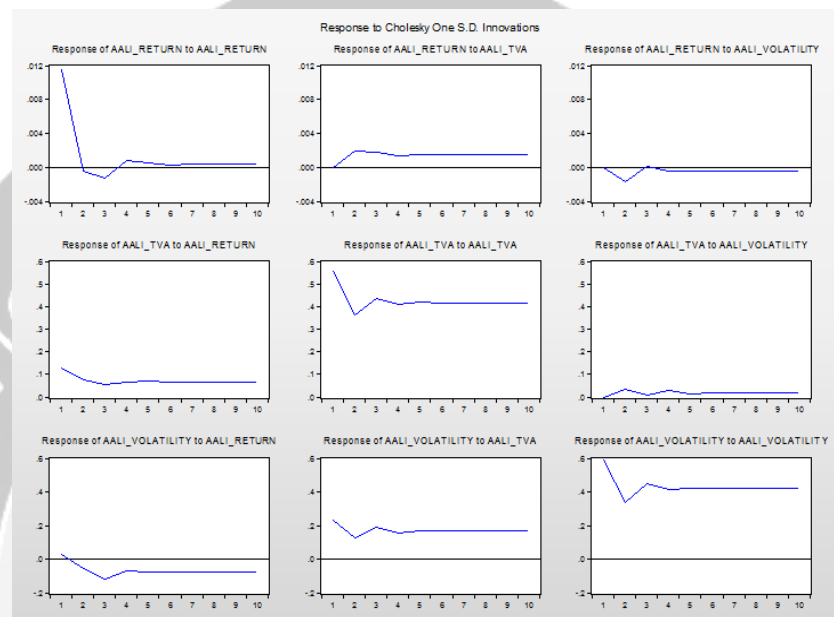
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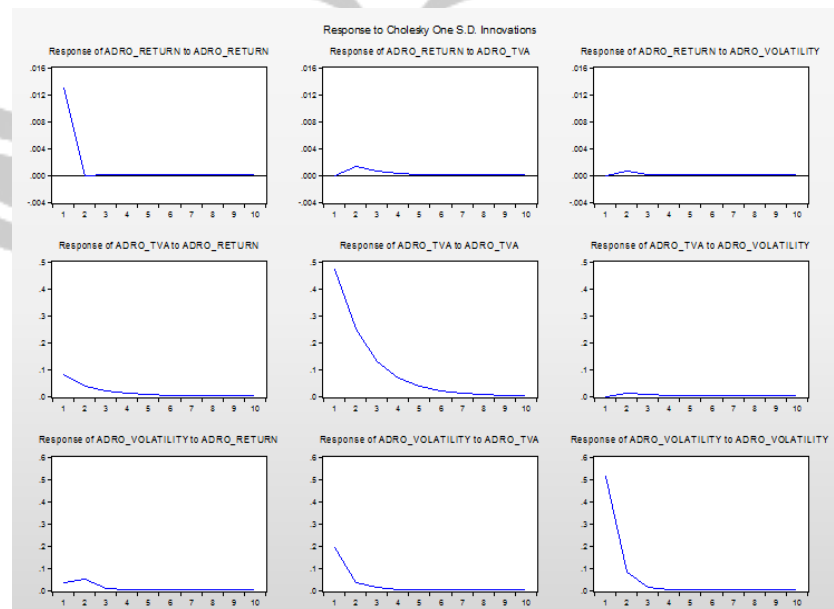
APPENDIX I

IMPULSE RESPONSE FUNCTION

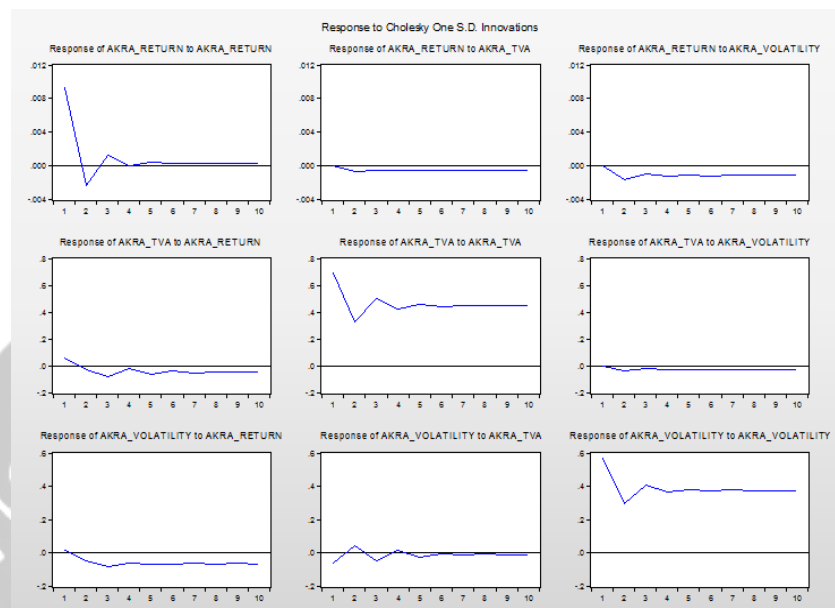
Impulse Response Function for Astra Agro Lestari Tbk (AALI)



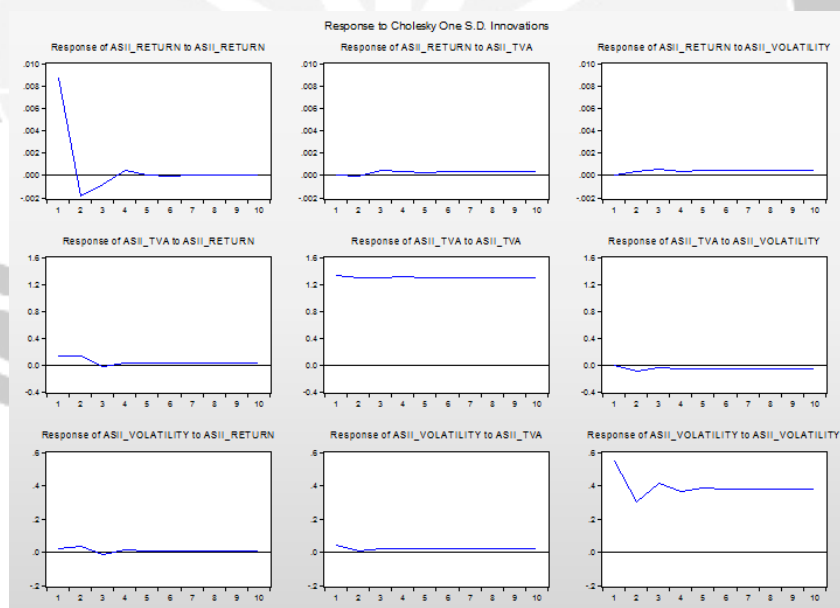
Impulse Response Function for Adaro Energy Tbk (ADRO)



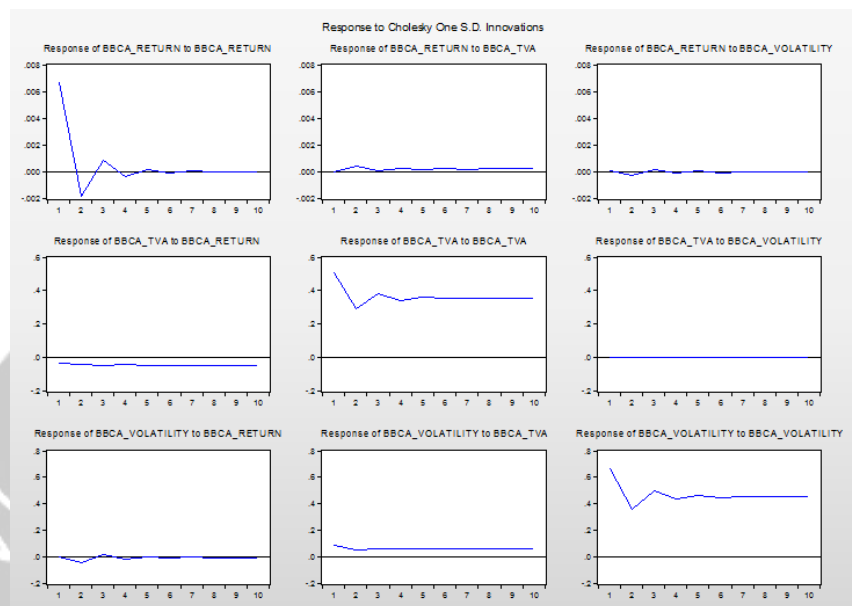
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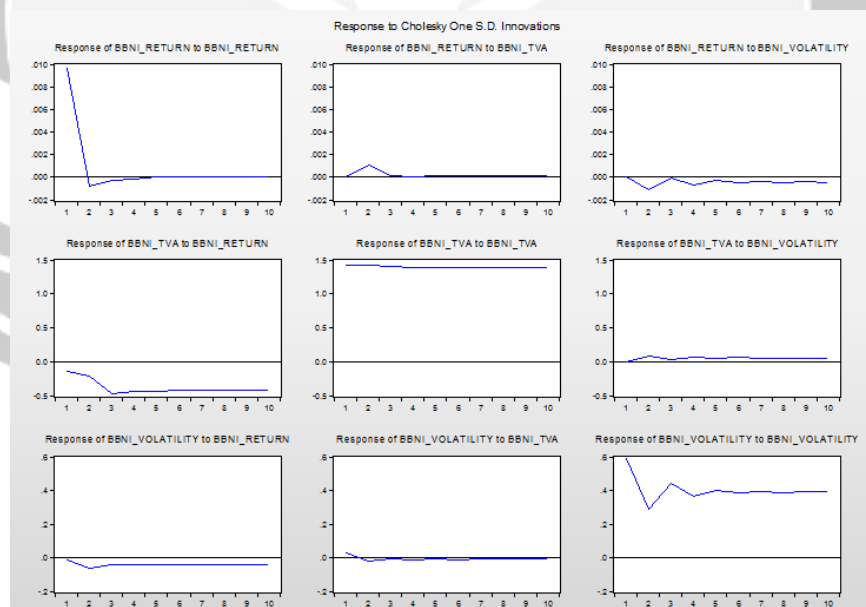
Impulse Response Function for Astra International Tbk (ASII)



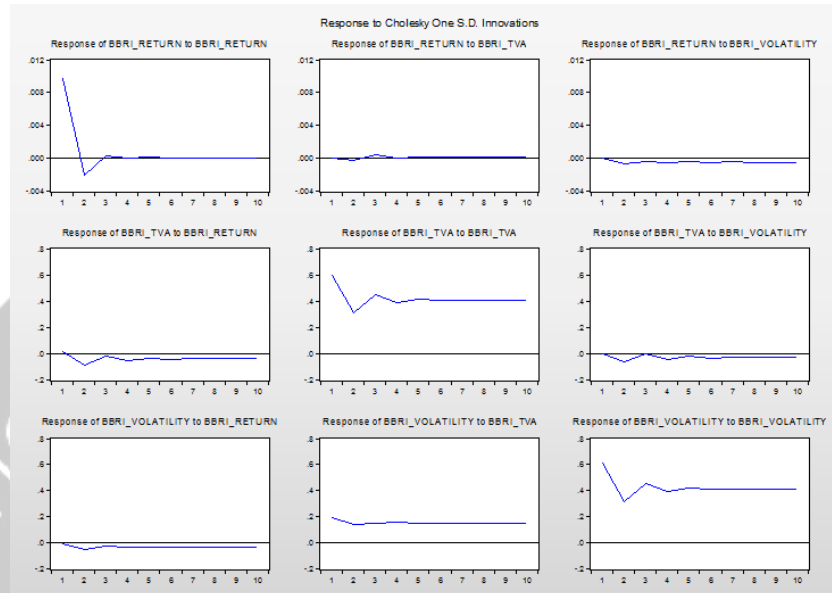
Impulse Response Function for Bank Central Asia Tbk (BBCA)



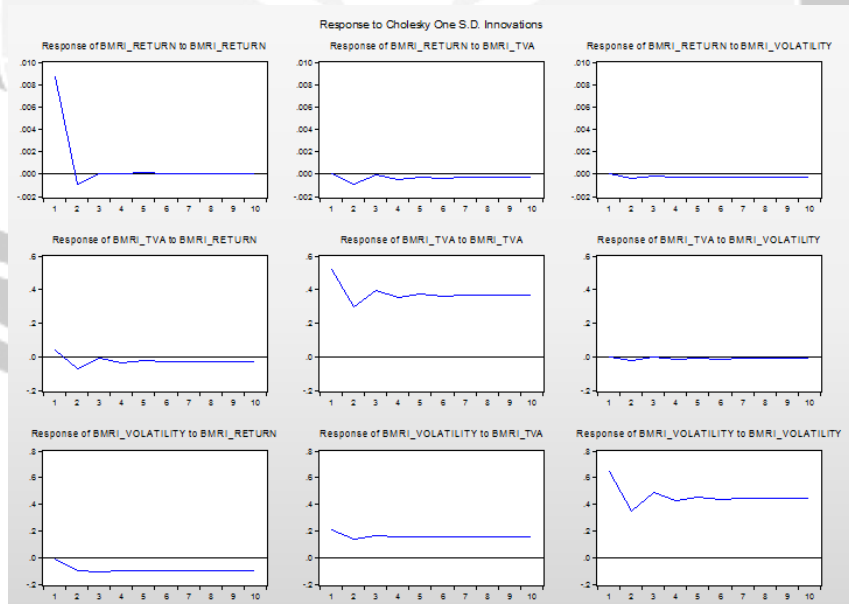
Impulse Response Function for Bank Negara Indonesia (Persero) Tbk (BBNI)



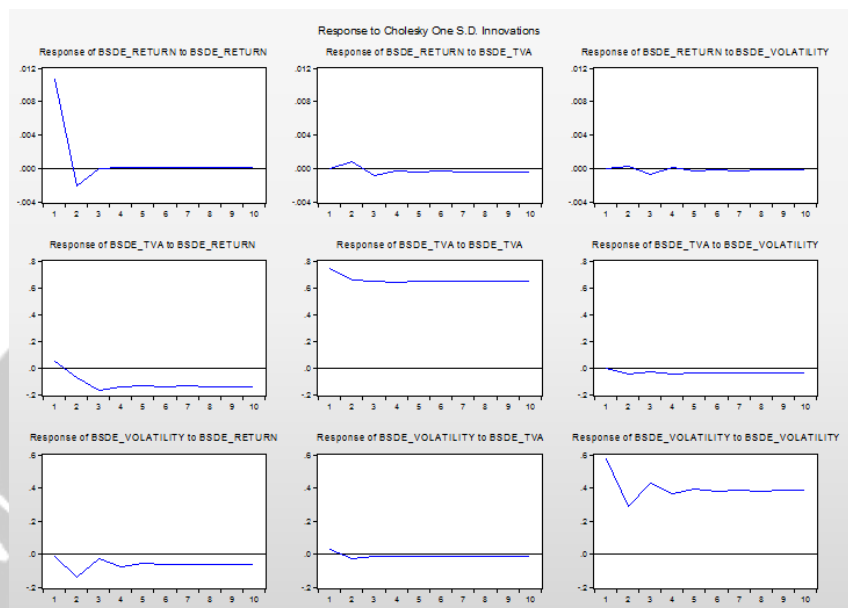
Impulse Response Function for Bank Rakyat Indonesia (Persero) Tbk (BBRI)



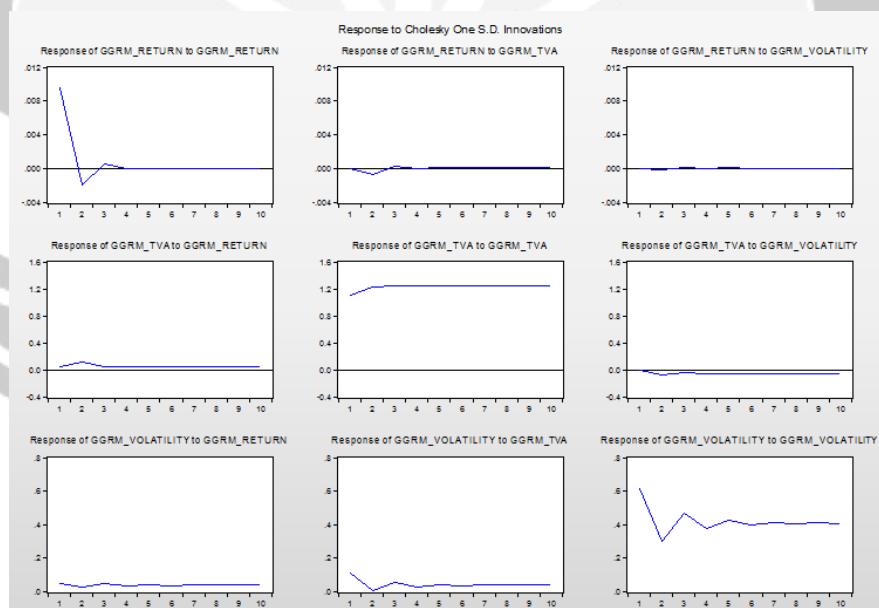
Impulse Response Function for Bank Mandiri (Persero) Tbk (BMRI)



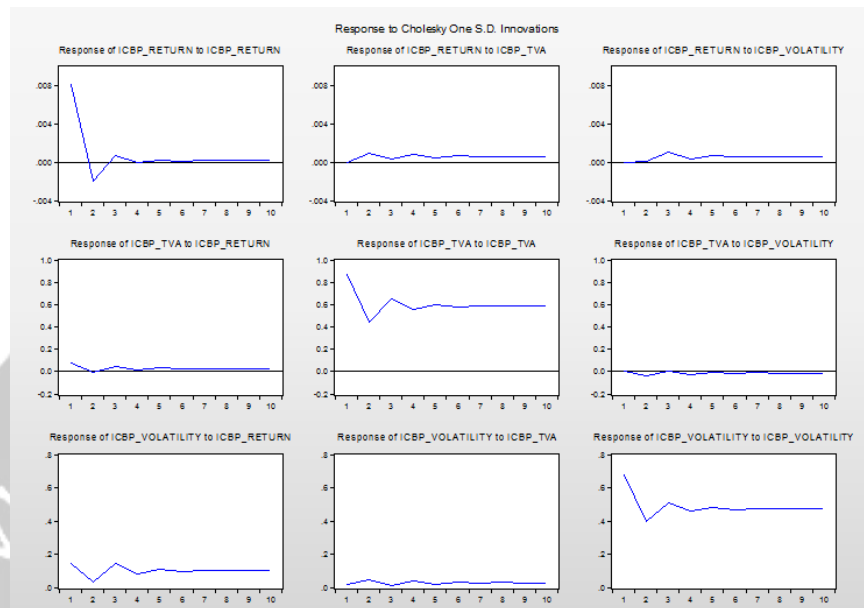
Impulse Response Function for Bumi Serpong Damai Tbk (BSDE)



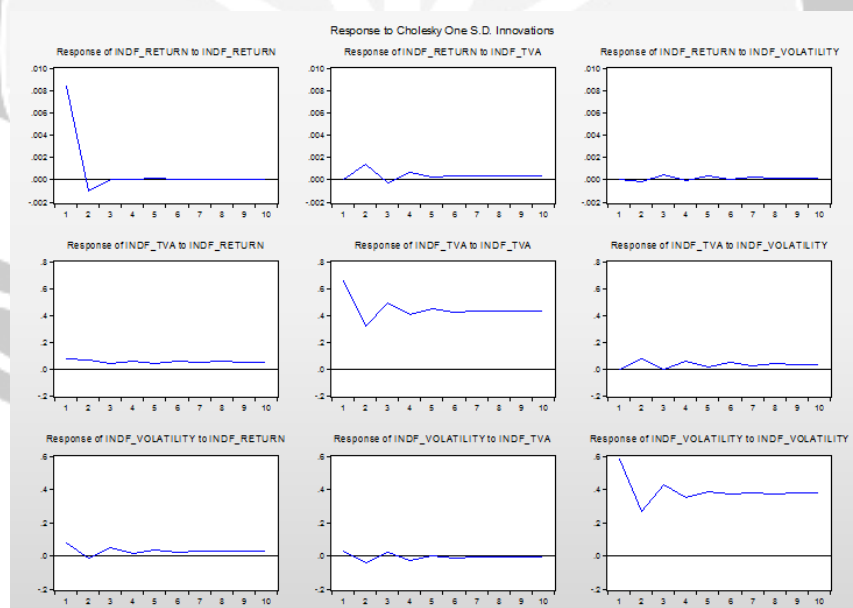
Impulse Response Function for Gudang Garam Tbk (GGRM)



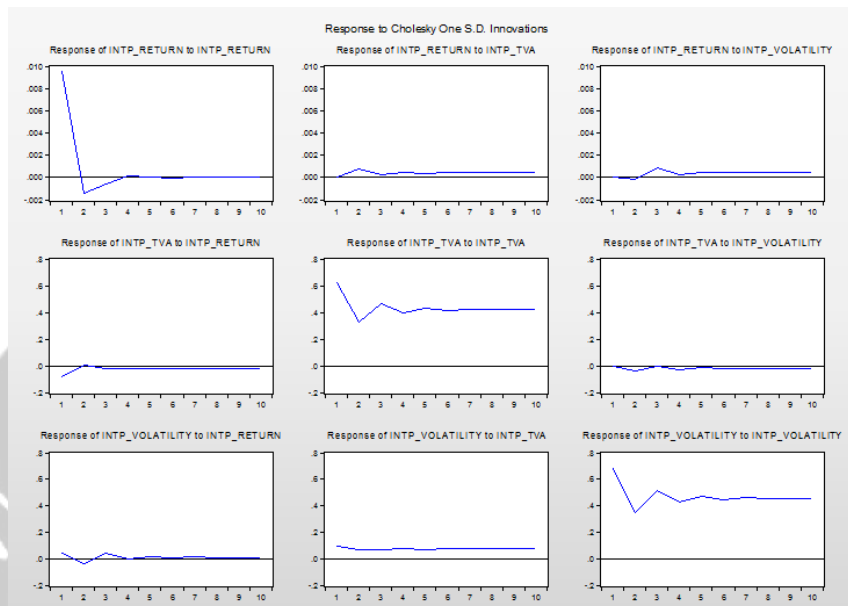
Impulse Response Function for Indofood CBP Sukses Makmur Tbk (ICBP)



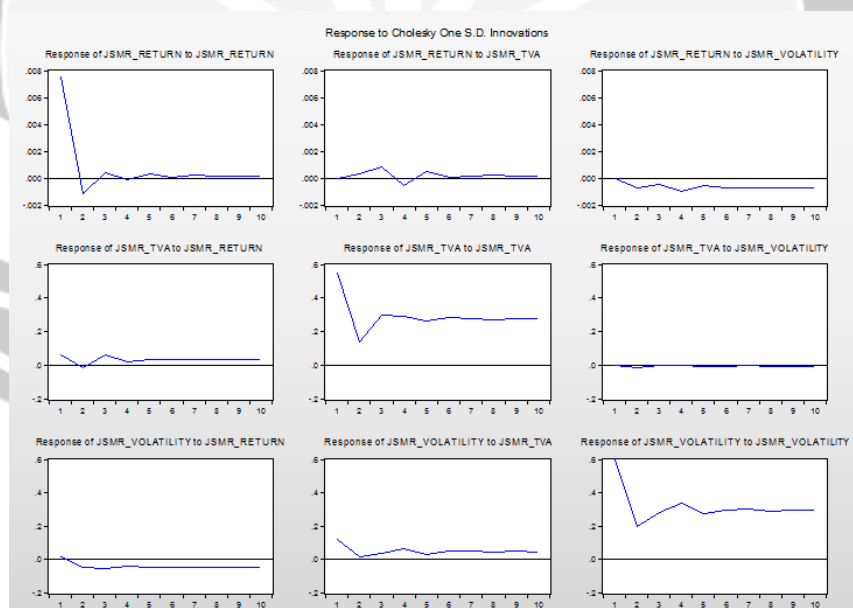
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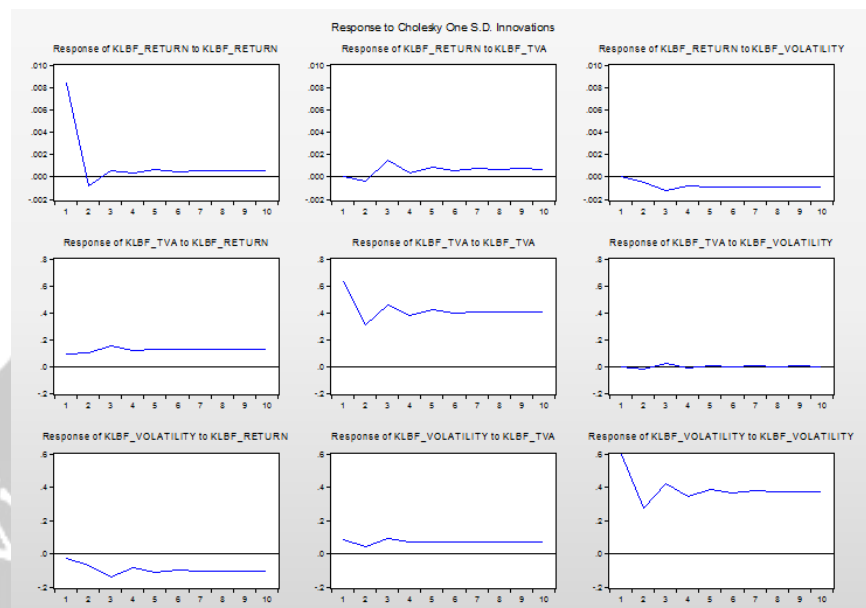
Impulse Response Function for Indocement Tunggol Prakasa Tbk (INTP)



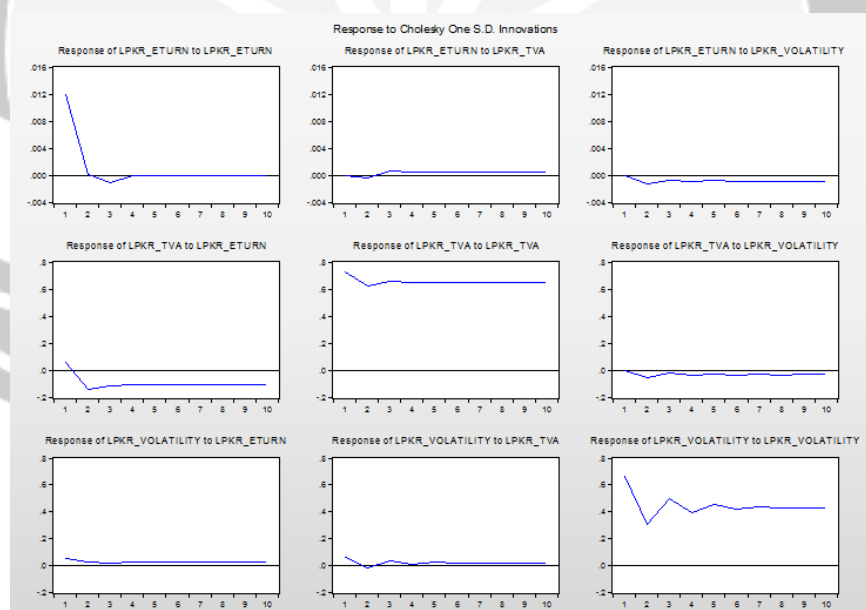
Impulse Response Function for Jasa Marga (Persero) Tbk (JSMR)



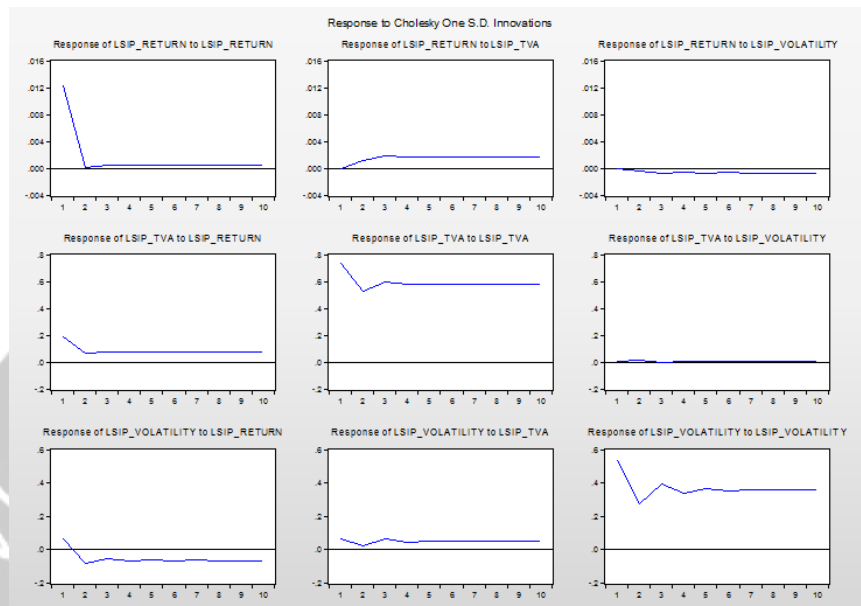
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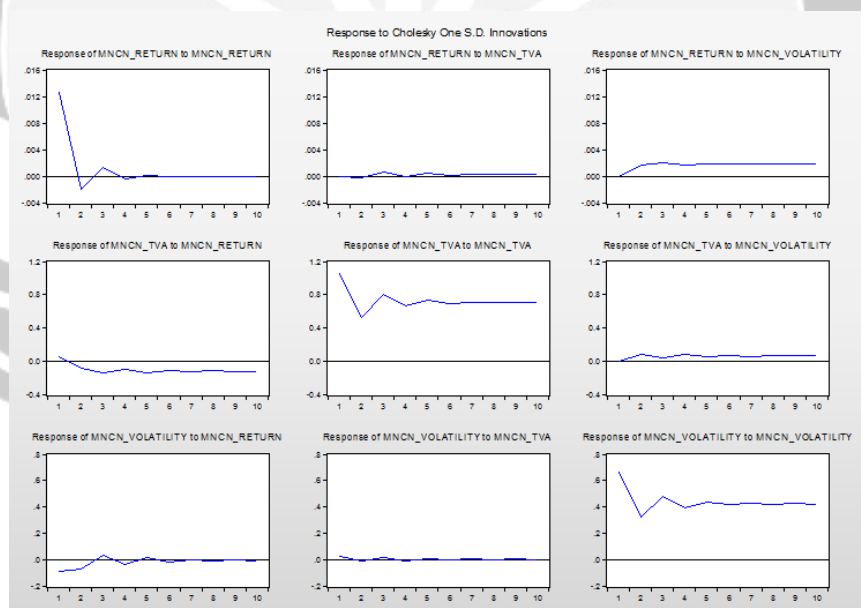
Impulse Response Function for Lipko Karawaci Tbk (LPKR)



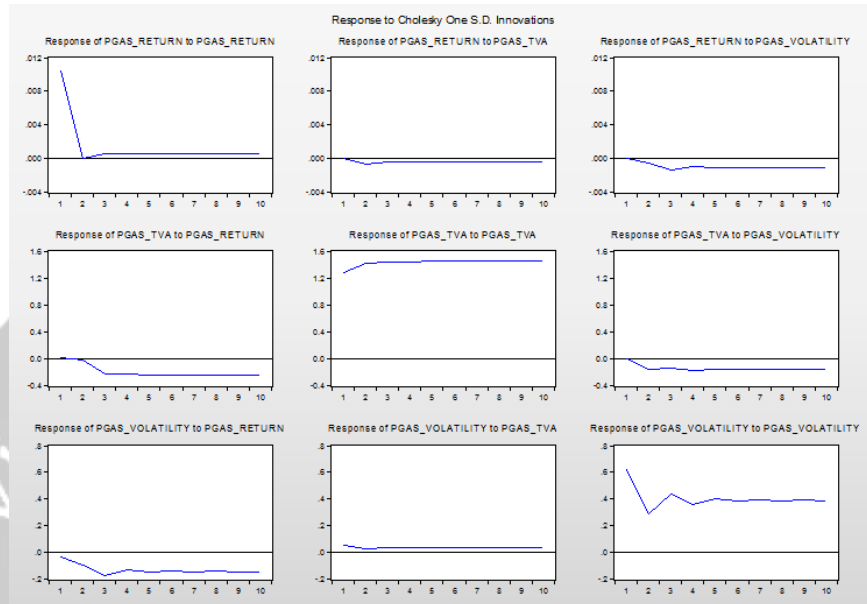
Impulse Response Function for PP London Sumatra Indonesia Tbk (LSIP)



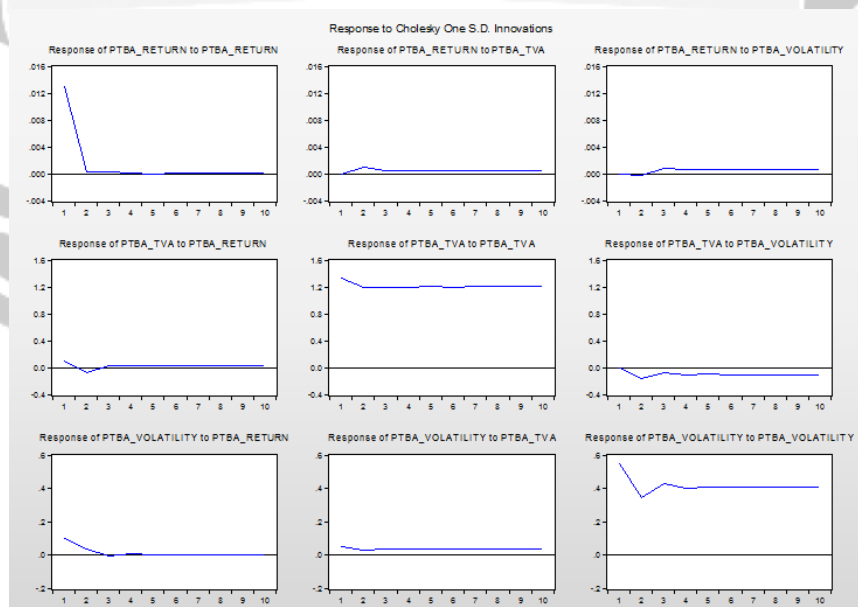
Impulse Response Function for Media Nusantara Citra Tbk (MNCN)



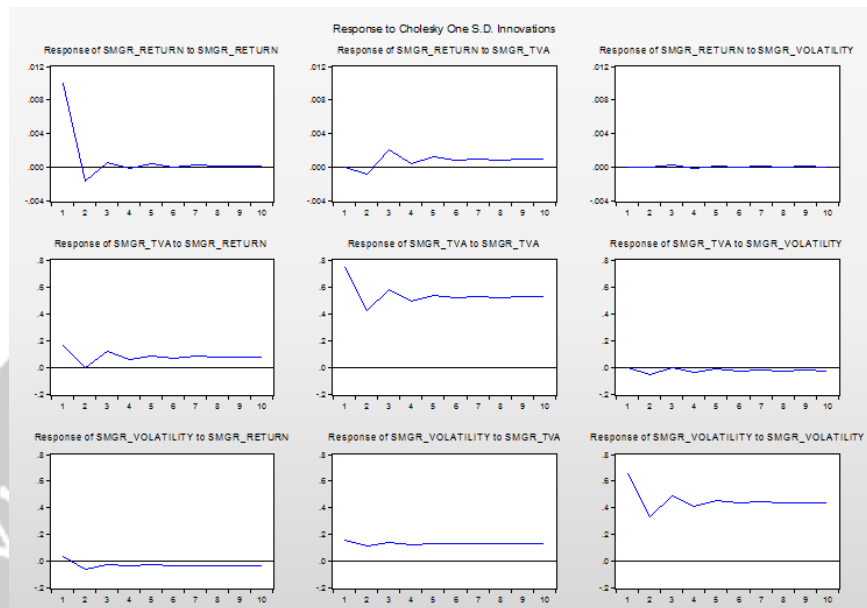
Impulse Response Function for Perusahaan Gas Negara (Persero) Tbk (PGAS)



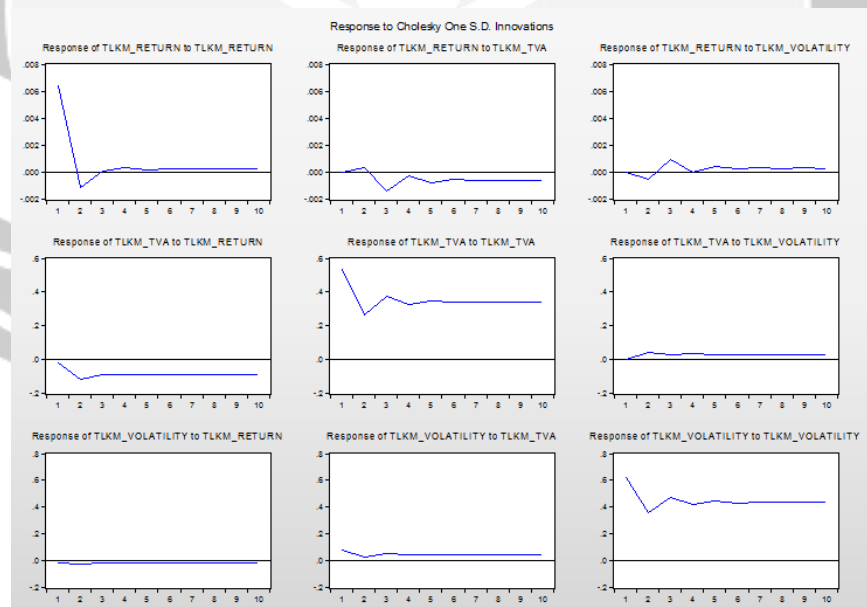
Impulse Response Function for Tambang Batubara Bukit Asam (Persero) Tbk (PTBA)



Impulse Response Function for Semen Gresik (Persero) Tbk (SMGR)



Impulse Response Function for Telekomunikasi Indonesia (Persero) Tbk (TLKM)



Impulse Response Function for United Tractors Tbk (UNTR)



Impulse Response Function for Unilever Indonesia Tbk (UNVR)

